

## Chapter 2.36

# Knowledge Management in Supply Chain Networks

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### INTRODUCTION

This article reviews current research and practice of knowledge management (KM) and inter-organizational learning in supply chain networks. Knowledge management is the organizational process for acquiring, organizing, and communicating the knowledge of individual employees so that the work of the organization becomes more effective (Alavi & Leidner, 1999). Knowledge management is an increasingly important process in business organizations because “managing human intellect—and converting it into useful products and services—is fast becoming the critical executive skill of the age” (Quinn, Anderson & Finkelstein, 1998). Grover and Davenport (2001) state that KM becomes “an integral business function” when organizations “realize that competitiveness hinges on effective management of intellectual resources.” Grover and Davenport

also argue that knowledge management works best when it is carried out by all the employees of the organization and not just KM specialists.

Business organizations frequently partner with other firms to complement their core competencies. To collaborate effectively, partner firms have to communicate with each other information about business processes as well as share ideas of how to design or improve business processes. This phenomenon of knowledge sharing across organizational boundaries is called inter-organizational learning (Argote, 1999). Knowledge management, we posit, is necessary to facilitate inter-organizational learning and direct it in a way that supports the organization’s overall objectives.

Supply chain systems are an example of business networks. Supply chains involve not only multiple corporate entities but also organizational units within a single organization. We present practices used in business organizations and

networks of businesses to manage the information and knowledge sharing processes using the context of supply chain systems.

## BACKGROUND

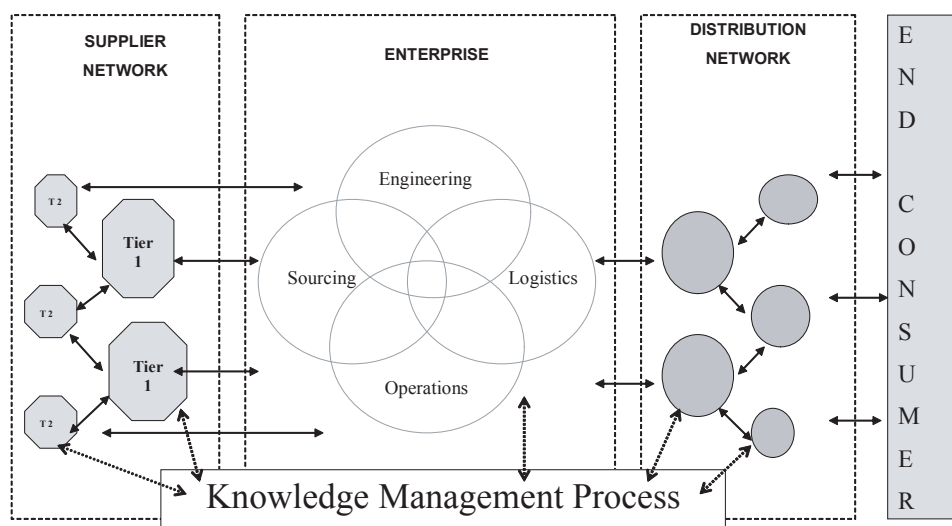
A supply chain consists of all parties involved, directly or indirectly, in fulfilling the end consumer's request. Its primary purpose is to satisfy customer needs while maximizing the overall profitability of the chain. A typical supply chain involves a variety of stages that may include customers; a distribution network of retailers, wholesalers, and distributors; manufacturing enterprises; and tiers of suppliers (Figure 1). Information, knowledge, funds, products, and services flow along both directions of the chain, where more than one player is often involved at each stage. The structure of supply chain systems can be described as a business network where inter-organizational learning and information sharing are critical factors in determining the chain's competitiveness.

The performance of a supply chain depends upon how well its processes are managed for the

type of product that is associated with the chain. Fisher (1997) classifies products on the basis of their demand patterns, claiming that a product falls into one of two categories, either primarily functional or primarily innovative. Functional products satisfy basic needs and include the staples that people buy in a wide range of retail outlets such as grocery stores and gas stations. These products have stable, predictable demand, and long life cycles. Due to well-developed competition, low profit margins occur, requiring the chain to focus almost exclusively on minimizing physical costs. Companies need to coordinate the ordering, production, and delivery of supplies in order to minimize inventory and maximize production efficiency in order to meet predictable demand at the lowest cost.

Innovative products, such as fashion apparel and technology products including plasma TVs, cellphones, and iPods, are differentiated from competition by their designer options and new features and capabilities. The novelty of these products allow higher profit margins, but also result in more demand uncertainty as it is difficult to predict how the market will respond to

*Figure 1. The integrated supply chain*



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